

JK Lakshmipat University Jaipur
INSTITUTE OF MANAGEMENT

End Term Examination, May 2024
BBA, Semester V, 2023-2024

Roll No.....

OP1101: OPERATIONS MANAGEMENT

Time: 2 hours

Max. Marks: 40

Instructions to students:

1. Do not write anything other than your roll number on the question paper.
2. This is an open book open notes exam, however, use of digital resources like mobiles and laptops is not allowed.
3. Use of calculator (non-programmable) is allowed.

Q. 1 Match the options in Column 1 with the most appropriate options in the column 2
(Use the format **1 – A, 2- B** in your answer sheet to mention the answers).

Q.1.1 Quality related questions:

Column 1

Column 2

4.0
(LO1, 4)

- | | |
|-------------------|------------------------------|
| 1. Aesthetics | A. Brand |
| 2. Perception | B. Liability |
| 3. Reliability | C. Standards |
| 4. Durability | D. Proper function (time) |
| 5. Safety | E. Primary characteristics |
| 6. Responsiveness | F. Ease of resolution |
| 7. Conformance | G. Secondary characteristics |
| 8. Serviceability | H. 80-20 rule |
| 9. Performance | I. Life before replacement |
| 10. Pareto Chart | J. Appeal to senses |

Q.1.2 Operations strategy related questions:

Column 1

Column 2

4.0
(LO1, 4)

- | | |
|--------------------------------|--|
| 1. Inventory management | A. Cheaper |
| 2. Differentiation | B. New product planning |
| 3. Long range forecast | C. Nearness to customer, suppliers, and talent |
| 4. Cost leadership | D. Utilizing personnel and facilities |
| 5. Maintenance | E. Involves intuition |
| 6. Scheduling | F. Panel of experts |
| 7. Qualitative methods | G. Ordering and holding decisions |
| 8. Delphi method | H. Engaging senses |
| 9. Location strategy | I. Reliable and stable process |
| 10. Experience differentiation | J. Unique |

Q. 2 Multiple choice questions (Use the format **1 – A, 2- A** in your answer sheet to mention the answers):

Q. 2.1 The supply chain strategy category would include a decision about _____ 1.0
(LO1,4)

- A) which items in the warehouse will be shipped to Malibu.
- B) which warehouse will supply the Surf City location.
- C) when the order should be shipped to the little old lady from Pasadena.
- D) how large the warehouse in Kokomo should be

Q. 2.2 The profitability of a supply chain is impacted primarily by _____. 1.0
(LO1,4)

- A) the design, planning and operation categories of decisions
- B) only the operation category of decisions
- C) only the design and planning categories of decisions
- D) only the planning and operation categories of decisions

Q. 2.3 A decision made about which markets will be serviced by which locations falls in the supply chain _____ phase. 1.0
(LO1,4)

- A) conceptualization
- B) design
- C) operation
- D) planning

Q. 3 Gibson Production produces cast bronze valves for use in offshore oil platforms. Currently, Gibson produces 1600 valves per day. The 20 workers at Gibson work from 7 a.m. until 4 p.m., with 30 minutes off for lunch and a 15 minute during the morning work session and another in the afternoon work session. Gibson is in a competitive industry and needs to increase productivity to stay competitive. They feel that a 20% increase is needed.

Q. 3.1 Calculate the labour productivity for Gibson Production. 3.0
(LO1,2)

Q. 3.2 Calculate the labour productivity for the hypothetical 20% increase. 2.0
(LO1,2)

Q. 4.1 The jobs 1, 2, 3 and 4 need to be assigned to the workers A, B, C and D. The costs pertaining to a job and worker are given in the table below. Find the pairs (e.g., Worker A & Job 1) for the minimum cost assignment using Hungarian method. 4.0
(LO1,2)

	Job 1	Job 2	Job 3	Job 4
Worker A	9	2	7	8
Worker B	6	4	3	7
Worker C	5	8	1	8
Worker D	7	6	9	4

- Q. 4.2 Refer to Table 2.3 (Chapter 2- Operations Strategy, Slide: 62). There is another Chinese based company- ABC, that is available as an outsourcing provider. The points corresponding to the factors (criterion) are given below. Identify the best outsourcing provider among the given 4 options, by using the factor rating method. 4.0
(LO1,2)

Factor (Criterion)	ABC Rating
Criterion 1	5
Criterion 2	4
Criterion 3	5
Criterion 4	5
Criterion 5	5
Criterion 6	4
Criterion 7	5

- Q. 4.3 Explain the differences between push and pull when it comes to the supply chains. 3.0
(LO1,3)
- Q. 4.4 Refer to Table 1.1 (Chapter 1- Operations and Productivity, Slide #: 14). Identify the best option for increasing the contribution if the taxes change to 35%. 3.0
(LO1,3)
- Q. 4.5 For the data given below, use a three week weighted moving average to calculate the forecast and the error. Use the weight of 0.4 for most recent data, 0.35 for second most recent data, and 0.25 for the oldest data. 6.0
(LO1,3)
- Q. 4.6 Use Johnson's rule to find the optimum sequence for processing the jobs shown through two work centers. Times at each work center are in hours. Also identify the idle time at both the work centers during the optimum sequence. 4.0
(LO1,3)

Job	Work center 1	Work center 2
A	6	12
B	3	7
C	18	9
D	15	14
E	16	8
F	10	15

all the best!

